

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
19 February 2004 (19.02.2004)

PCT

(10) International Publication Number  
WO 2004/015880 A1

(51) International Patent Classification<sup>7</sup>: H04B 1/28

(21) International Application Number:  
PCT/JP2003/010162

(22) International Filing Date: 8 August 2003 (08.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2002-233512 9 August 2002 (09.08.2002) JP  
2002-245460 26 August 2002 (26.08.2002) JP

(71) Applicant (for all designated States except US): CA-  
SIO COMPUTER CO., LTD. [JP/JP]; 6-2, Hon-machi  
1-chome, Shibuya-ku, Tokyo 151-8543 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SOMEYA, Kaoru  
[JP/JP]; 6-27, Umezono 3-chome, Kiyose-shi, Tokyo  
204-0024 (JP).

(74) Agent: KIMURA, Mitsuru; 2nd Floor, Kyohan Build-  
ing, 7, Kandanishiki-cho 2-chome, Chiyoda-ku, Tokyo  
101-0054 (JP).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

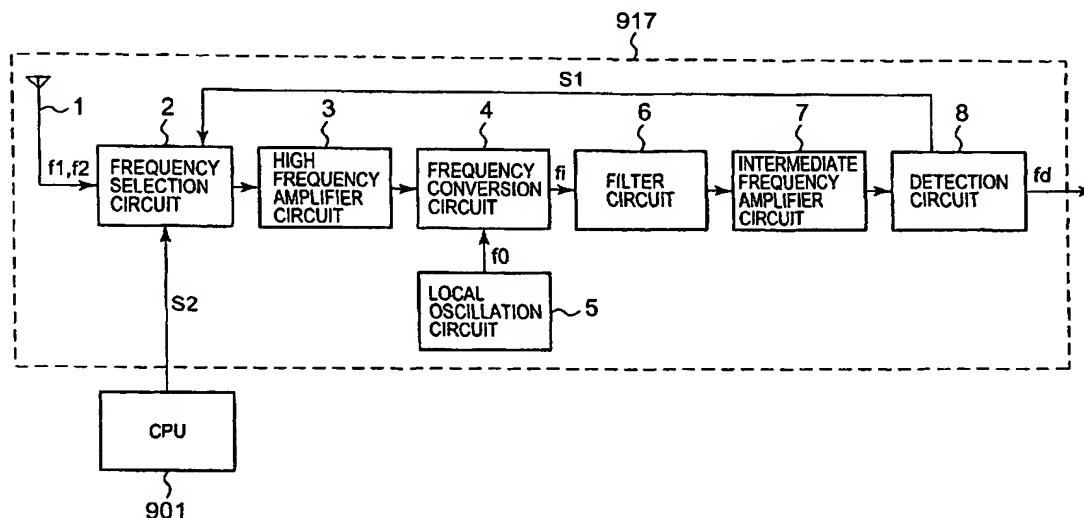
(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: RADIO WAVE RECEPTION DEVICE AND RADIO WAVE CLOCK



(57) Abstract: In a radio wave reception device and a radio wave clock capable of receiving multiple frequencies, an intermediate frequency signal whose frequency is fixed can be output while a signal output from a local oscillation circuit (5) is fixed.

## INTERNATIONAL SEARCH REPORT

International Application No

PC 7/00 03/10162

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04B1/28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 005 506 A (BAZARJANI SEYFOLLAH S ET AL) 21 December 1999 (1999-12-21) column 2, line 2 - line 5	1,6,12
Y	figure 1	2-5,7,8, 11,13
Y	US 6 389 059 B1 (DIXON ROBERT C ET AL) 14 May 2002 (2002-05-14) column 15, line 45 - line 57	2,3,7, 11,13
Y	US 6 370 365 B1 (CALLAWAY JR EDGAR HERBERT ET AL) 9 April 2002 (2002-04-09) figure 3	8
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

14 January 2004

Date of mailing of the international search report

21/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Avilés Martínez, L

# INTERNATIONAL SEARCH REPORT

Int. Application No  
PCT/JP 03/10162

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 02 27953 A (OLSSON HAAKAN ;SPIREA AB (SE); LI XIAOPENG (US)) 4 April 2002 (2002-04-04) figure 5</p> <p>-----</p>	4,5

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 03/10162

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6005506	A	21-12-1999	AU 746148 B2	18-04-2002
			AU 1717899 A	28-06-1999
			BR 9813414 A	10-10-2000
			CA 2313139 A1	17-06-1999
			CN 1281597 T	24-01-2001
			EP 1040587 A1	04-10-2000
			JP 2001526487 T	18-12-2001
			WO 9930428 A1	17-06-1999
			ZA 9811125 A	10-10-2000
US 6389059	B1	14-05-2002	US 5887020 A	23-03-1999
			US 5291516 A	01-03-1994
			CA 2197332 A1	29-02-1996
			EP 0776557 A1	04-06-1997
			IL 114924 A	17-02-2000
			JP 10504698 T	06-05-1998
			WO 9606490 A1	29-02-1996
			US 5694414 A	02-12-1997
			US 5790587 A	04-08-1998
			US 5796772 A	18-08-1998
			US 5815525 A	29-09-1998
			US 6088590 A	11-07-2000
			US 2003206530 A1	06-11-2003
			US 5671219 A	23-09-1997
			US 5818820 A	06-10-1998
			US 5648955 A	15-07-1997
			US 5768264 A	16-06-1998
			US 6229792 B1	08-05-2001
			US 6434137 B1	13-08-2002
			US 6021333 A	01-02-2000
			US 6094575 A	25-07-2000
			US 6532365 B1	11-03-2003
			US 6005856 A	21-12-1999
			US 6161013 A	12-12-2000
			US 6112080 A	29-08-2000
			US 5787076 A	28-07-1998
			AU 5668994 A	08-06-1994
			WO 9411978 A1	26-05-1994
			AT 233971 T	15-03-2003
			AU 2140092 A	30-12-1992
			CA 2102914 A1	14-11-1992
			DE 69232943 D1	10-04-2003
			DE 69232943 T2	28-08-2003
			EP 0584248 A1	02-03-1994
			JP 2846118 B2	13-01-1999
			JP 6507768 T	01-09-1994
			WO 9221195 A1	26-11-1992
US 6370365	B1	09-04-2002	NONE	
WO 0227953	A	04-04-2002	AU 9249001 A	08-04-2002
			SE 0003520 A	30-03-2002
			WO 0227953 A1	04-04-2002